On Oliva auricularia, *Lam.*, O. aquatilis, *Reeve, and* O. auricularia, *D'Orb.* By F. P. Marrat.

The history of these shells is somewhat remarkable—so much so that each author who has written upon them has had some information to impart of a character differing considerably from that of his predecessor.

Lamarck described a species which he called *O. auricularia* (Animaux sans Vertèbres); the former part of this description refers to the *O. aquatilis*, Reeve, pl. 18. fig. 38, while the latter ("columella callosa, complanata") refers to the *O. auricularia*, Lam., as figured by Reeve, pl. 18. fig. 39.

D'Orbigny (Voy. Amér. Mérid. vol. ix. pl. 59. figs. 20–22) has figured a shell, accompanied by the animal, and named it *Olivancillaria auricularia*, Lam., from which species it differs so much as to be regarded as even generically distinct. Deshayes, in a footnote to the description of *O. auricularia*, Lam., remarks that D'Orbigny has confounded his shell with Lamarck's species, and considers D'Orbigny's species to be *O. biplicata*, Sow., quoting the figure in Wood's Supplement. Again, this author, under the species *O. biplicata*, Sow., gives D'Orbigny's *O. auricularia* as a synonym, and describes the difference existing between the two species. In the Tankerville Catalogue, page 33, Appendix No. 2331, we have a description of the two species under the name of *O. patula seu aperta*, Sol. MS., the former portion of this description referring to the *O. auricularia*, Reeve, or the thick African species, and the latter portion to the *O. aquatilis*, Reeve, or the thin South-American shell.

Duclos (Genre *Olive*, pl. 29. figs. 4–7) has not only figured the two shells hitherto confounded under the *O. auricularia*, Lam., but has introduced two figures of another allied species or variety (pl. 29. figs. 5 & 6).

Reeve, in his 'Monograph on the genus *Oliva*,' in 1851, separated the shells into two species, viz. *O. auricularia*, Lam., and *O. aquatilis*, Reeve, but gave a wrong locality to the former, viz. Brazil instead of Africa. The Messrs. Adams, in their valuable work on the 'Genera of Recent Mollusca,' vol. i. pp. 140 & 141, give a description of the genus *Olivancillaria*, D'Orb., and figure at pl. 15. fig. 2 a copy of D'Orbigny's animal and shell, with the name *O. vesica*, Gmelin. On the same plate, fig. 2ª, *O. auricularia*, Reeve, is given as the shell of D'Orbigny, the first having an open canaliculate spire, and the second a closed canal; in fact two species could scarcely be selected that differ more widely. Dr. Gray, in his work on the Olividæ, p. 19, gives the *Claneophila auricularia*, Lam., as the *O. aquatilis*, Reeve, and *O. patula*, Sow., as a synonym, and to the thick African shell he has given a new name, *Cl. gibbosa*, Gray.

What inferences can we draw from these contradictory statements? First, that the *O. vesica*, Gmel., is the *O. auricularia*, Lam., in part, as well as the *O. patula*, Sow., in part, and of Duclos in part, these authors all believing that the *O. aquatilis*, Reeve, was only a variety of *O. auricularia*, Lam.; and the credit of distinguishing them as species

is due to Reeve. I suppose we shall have to record the *O. aquatilis*, Reeve, as the *O. auricularia*, Lam., unless we should find a figure of this shell in some early work under another name.

The only shell remaining is the *O. auricularia*, D'Orb. Both Deshayes and Duclos are of opinion that D'Orbigny made some mistake: I am of quite the contrary way of thinking. We have the animal and shell given, the latter differing essentially from the *O. auricularia*, Lam.; and D'Orbigny might easily have thought it might belong to that variable species, as it was then supposed to be. I cannot think that such a naturalist as D'Orbigny would figure an animal and put an imaginary shell upon it; and therefore I conclude that the shell figured is the one dredged, and no other. Having arrived at this conclusion, and having carefully compared the shell figured with *O. biplicata*, Sow., there is no doubt in my mind of its being entirely new. In the first place, its open spire is sufficient to prevent its being mistaken for *O. auricularia*, and it differs from *O. biplicata* in not being biplicate but multiplicate, in not having the violet interior and basal band, and in having the basal band spotted —characters by which it may at once be distinguished from that species.

I think the species might be named after its discoverer, *O. Orbignyi*.

2 Peveril Terrace, Edge Lane, Liverpool.
July 17, 1868.

On a Viviparous Sea-Urchin. By Dr. E. Grube.

Our knowledge of the sexual conditions, reproduction, and development of the Sea-Urchins hitherto extended only to the fact that there are produced from the fecundated ova bilateral free-swimming larvæ furnished with lines of cilia (*Pluteus*), and that internal buds are formed in these, and become developed, in accordance with the 5-rayed type, with a spiny test and feet, into sea-urchins, which acquire male or female genitalia. The semen and ova issue through several small apertures situated at the summit of the test near the madrepore-plate.

The little Sea-Urchin upon which I have the honour to report to the Academy enlarges our knowledge of the natural history of the Echinoida by a very singular character: it produces living young, which are already sea-urchins, provided with test, spines, and feet, and so large that their diameter is more than one-tenth of the length of the parent animal, to which I give the name of *Anochanus*.

In its appearance *Anochanus* most closely resembles the *Nucleolites* (*Echinobrissus*) *epigonus* lately described by Dr. von Martens; it has an oval test, not broader behind, of 9·5 millims. in length, with a pit descending in the hinder interambulacrum, in which the anus opens, and a subventral peristome of elongate-oval form; but the feet run in uninterrupted rows from the peristome to the summit, which nearly occupies the middle. But the most peculiar circumstance is that we seek in vain for genital openings and a madrepore-